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POTATO VARIETIES IN KERN COUNTY CALIFORNIA

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WHITE ROSE

is the potato variety most commonly associated with Kern County. It is well adapted to the area because it matures early, has a pleasing uniform appearance on the market, and in general gives fairly high yields.

It is also called American Giant, Wisconsin Pride, Late Pride, Long White, Delta White, and Shafter White.

AN IMPROVED POTATO

would keep the good features of the White Rose but would have other desirable characters also, including:

Early maturity, the tubers reaching harvest stage 110 to 120 days from planting time.

High yields comparable with or greater than those obtained from White Rose.

Uniform tubers, oblong, free from side growths and growth cracks.

Smooth, golden skin color.

White flesh.

High cooking quality (good bakers).

Resistance to disease, especially common scab.

VARIETAL STUDIES

conducted for the past 10 years in Kern County have been directed toward testing other varieties that might meet the needs of the industry. This bulletin reports these studies.

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POTATO VARIETIES IN KERN COUNTY

CALIFORNIA

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The problem was to find varieties that growers could substitute for White Rose

California ranks first in the production of early potatoes. Acreage in the state between 1946 and 1950 inclusive accounted for more than 20 per cent of the United States total. Of the California early acreage, 80 to 85 per cent is grown in Kern County, located in the southern end of the San Joaquin Valley.

Kern County has developed since 1920 from raw desert land growing only 300 acres of potatoes to a highly specialized agricultural area producing annually 50,000 to 65,000 acres (table 1). Yields have increased from an average of 100 sacks per acre in 1920 to an average of approximately 250 sacks per acre in 1950.

White Rose is the principal variety produced in the early potato area in California—called also American Giant, Wisconsin Pride, Late Pride, Long White, Delta White, and Shafter White. Other varieties grown to a minor extent include Pontiac and Triumph, both red-skinned potatoes grown for special markets.

Because of its early maturity and its pleasing uniform appearance on the market, White Rose has been found to be especially well adapted to the Kern County area. Yields are in general fairly high. Although it has been satisfactory for this area, growers have stressed the need for continued effort to develop other varieties that keep the good features of the White Rose and have other desirable characters as well.

In the search for an improved potato, the following factors have been considered:

1) Early maturity, the tubers reaching harvest stage 110 to 120 days from planting time.

2) High yields comparable with or

TABLE 1—Acreage, Yield Per Acre, and Total Production of Potatoes in Kern County, 1940 to 1949, Inclusive

Year	Acreage	Yield per acre (100-pound sacks)	Total production (100-pound sacks)
1940	29,625	185	5,404,388
1941	34,320	161	5,523,300
1942	32,961	202	6,664,407
1943	40,226	215	8,639,633
1944	53,978	218	11,789,083
1945	60,765	185	11,269,607
1946	65,406	252	16,510,445
1947	50,791	256	13,016,019
1948	64,782	221	14,351,109
1949	56,239	245	13,764,052

greater than those obtained from White Rose.

3) Uniform tubers, oblong, free from side growths and growth cracks.

4) Smooth, golden skin color.

5) White flesh.

6) High cooking quality (good bakers).

7) Resistance to disease, especially common scab.

This bulletin presents information obtained in varietal studies made during the past 10 years in Kern County. Thirty-one varieties that show promise of meeting the needs of the industry were tested and are here reported on.

TABLE 2—Summary of Ten Years of Potato Variety Studies in Kern County*

Variety	Number of years tested	Av. yield per acre (100-lb. sacks)	Number of times the variety yield significantly exceeded, equaled, or was less than that of White Rose		
			+	=	−
Calrose	1	243	0	1	0
Canus	1	257	0	1	0
Cayuga	2	375	0	0	1
Chippewa	7	317	3	2	2
De Soto	1	227	0	1	0
Earlaine	2	205	0	1	1
Earlaine—2	1	220	0	1	0
Essex	1	275	0	1	0
Houma	7	350	1	5	1
Huinkul	1	298	0	1	0
Kasota	1	480	0	0	1
Katahdin	6	337	2	3	1
Kennebec	1	354	0	1	0
La Soda	1	250	0	1	0
Menominee	3	350	1	1	0
Mohawk	3	295	0	2	1
Ontario	1	412	1	...	...
Pawnee	2	215	0	0	2
Pontiac	5	375	1	3	1
Potomac	1	179	0	1	0
Progress	1	223	0	1	0
Red Warba	3	336	1	0	2
Russet Burbank	2	164	0	0	2
Russet Sebago	1	260	0	1	0
Saranac	1	256	0	1	0
Satapa	1	308	0	1	0
Sebago	9	347	4	4	1
Sequoia	5	375	1	4	0
Teton	4	389	0	2	1
Triumph	2	254	0	0	2
White Rose	9	303	...	...	...
Total	...	...	15	40	19

* 1949 data not included because of no White Rose check.

The tests showed that many varieties compare favorably with White Rose

White Rose has been the leading variety ever since potato growing became an industry in Kern County. A big consumer demand has been built up during this time for "Shafter Long Whites" or "California Long Whites." Although this in itself justifies continuance of the variety, consumers are not fully satisfied with the quality of White Rose and are voicing more objections each year.

In the period of 1940 to 1950, inclusive, 31 different potato varieties were included in the varietal studies in Kern County. Comparison with White Rose was made on the basis of yield, date of maturity, and disease resistance. Some of the varieties were tested only once, but others were tested several times.

Yield. The data in table 2 suggest that it is not difficult to find potato varieties that will consistently yield as high as White Rose or higher. This table is a summary of the varieties studied, the number of years each variety was included in the tests, the average yield of each variety for the number of years tested, and the number of times during the tests that the yield of each variety equaled that of White Rose, or the number of times the yield of each was above or below that recorded for White Rose.

Reference to the last three columns of the table shows that a total of 74 comparisons with White Rose was made. Of this number, 15 were significantly higher in yield than White Rose; 40 were equal to, and 19 yielded significantly less than White Rose. In other words, in 55 times out of 74 the yields produced by other varieties were equal to or higher than those produced by White Rose.

However, varietal characteristics other than yield play an important role in the selection of a variety for Kern County. Furthermore, it is evident from the data presented in tables 4 to 13 that yields vary greatly for the same variety from year to year—so much so, in fact, that any single variety should be tested for several years before any estimate of its performance is attempted.

Date of maturity. Another important factor is the time of maturity of the different varieties. While most of the acreage of White Rose is harvested before it is fully mature, White Rose is naturally earlier than most of the other varieties tested. This, however, should not prejudice a grower to any great extent against growing one of the other varieties tested. All the varieties included in the tests were planted and harvested on the same dates as the White Rose checks, and all yield comparisons were made for the same number of days in the growing season. All varieties that gave the same yield as White Rose or higher did so in the same growing period.

All varieties with the exception of Sebago handled just as easily as White Rose and with no more skinning, bruising, or windburn. Unless allowed to grow to full maturity the variety Sebago is difficult for pickers to handle, since most of the potatoes cling tightly to the plant even after they are dug and must be pulled from the vine individually.

It will be seen from table 3 in the center of this bulletin that the following classifications were made as to time of maturity:

Early: Earlaine, Essex, La Soda, Red Warba, Triumph

Medium early: Canus, Pawnee, White Rose

Midseason: Calrose, De Soto, Earlaine 2, Houma, Kasota, Mohawk, Satapa

Late: Cayuga, Chippewa, Huinkul, Katahdin, Kennebec, Menominee, Ontario, Pontiac, Potomac, Progress, Russet Burbank, Russet Sebago, Saranac, Sebago, Sequoia, Teton

TABLE 3—Some Plant and Tuber Characteristics of the Potato Varieties Tested in Kern County

Variety	Date of maturity	Plant			Tuber				Resistant to
		Habit	Stem internode color	Leaves	Color	Skin	Shape	Eyes	
Calrose	Midseason	Vigorous, large, erect	Reddish purple	Large, light green	White	Smooth	Oblong	Shallow	
Canus	Medium early	Medium in size, spreading	Reddish purple	Medium to long, broad	White	Smooth	Roundish oblong	Few, shallow	
Cayuga	Medium late	Medium spreading, prostrate	Green	Medium size	Light brown	Heavily russeted	Egg-shaped	Shallow	
Chippewa	Medium late	Medium to large, spreading	Slightly reddish purple	Long, broad	White	Smooth	Elliptical to oblong, medium thick	Shallow	mild mosaic net necrosis
De Soto	Midseason	Upright, vigorous	.....	Small	Red	Smooth	Elliptical round	Medium deep	mild mosaic
Earlaine	Early	Medium in size, spreading,	Green	Medium long, and wide	White	Smooth to slightly flaked	Round, flat, thick	Medium shallow, to shallow	mild mosaic
Earlaine—2	Midseason	Somewhat sprawling	Basal faintly purple	Light green, flat	Like Earlaine	.....	Like Earlaine	Deeper than Earlaine	
Essex	Early	Erect, spreading, sturdy	Green	.....	Buff	Smooth	Round, blunt	Medium to deep	late blight
Houma	Midseason to late	Vigorous, medium, spreading	Green to faint purple	Long, broad, flat, light green	White	Smooth	Short, thick	Shallow to medium deep	mild mosaic leaf roll
Huinkul	Late	Vigorous, medium, spreading	.....	.....	White	Smooth	Nearly round, medium thick	Shallow	

Kasota	Midseason	Medium to large, compact	Reddish purple	Medium long, broad, dark green	Medium red	Smooth	Roundish, medium thick	Shallow to medium deep	tolerant to Fusarium wilt
Katahdin	Medium to late	Medium to large, sprawling	Green or slightly reddish purple	Long, broad, flat, dark green	White	Smooth	Roundish, medium thick	Shallow, few basal	mild mosaic leaf roll net necrosis
Kennebec	Late	Large, spreading, thick stems	Green	Long, broad	Creamy buff	Smooth	Elliptical to long	Shallow	late blight mild mosaic net necrosis
La Soda	Early to medium early	Upright, medium vigor	.....	Small to medium	Bright, pinkish red	Smooth	Semi-round to slightly oblong	Medium to shallow	
Menominee	Late	Medium to large, upright	Slightly reddish purple	Long, narrow	White	Smooth to slightly flaky	Round, medium thick	Medium deep	scab, verticillium wilt
Mohawk	Midseason to late	Vigorous, erect	Green	Large, smooth, medium green	White	Flaky to smooth	Elongated, thick	Shallow	mild mosaic
Ontario	Late	Medium erect	Light green to reddish purple	Long, broad	Dark creamy buff	Smooth	Oblong	Shallow except at bud end	scab
Pawnee	Medium early	Medium spreading	Reddish purple	Long, medium broad	White	Smooth	Roundish, medium thick	Shallow, very few	
Pontiac	Late	Vigorous, upright	Reddish purple	Long, dark green, rough	Red	Smooth	Oblong to round, thick	Medium deep	
Potomac	Late	Vigorous, upright	.....	.....	White	Smooth	Round	Medium	late blight
Progress	Late	.....	.....	.....	Red	Smooth	Oblong to roundish	Shallow	
Red Warba	Early	Medium, spreading	Green	Long, medium in breadth	Red	Smooth	Short, round	Deep	mild mosaic

TABLE 3—Continued

Variety	Date of maturity	Plant			Tuber				Resistant to
		Habit	Stem internode color	Leaves	Color	Skin	Shape	Eyes	
Russet Burbank	Late	Large to medium, spreading	Slightly reddish purple	Long, medium wide	Buff	Russeted, heavily netted	Long, cylindrical, slightly flattened	Numerous, shallow	
Russet Sebago	Late	Vigorous, upright	Reddish purple	Medium long, broad, dark green	Buff	Russeted	Round elliptical	Shallow	
Saranac	Late	Large, erect	Green	Medium	Ivory yellow	Flaked	Round	Shallow	ring rot
Satapa	Midseason	Medium, spreading	Slightly pigmented	Long, medium, wide	Light red	Smooth	Round, slightly flattened	Very shallow	
Sebago	Late	Vigorous, upright	Reddish purple	Medium long, broad, dark green	White	Smooth	Nearly round, medium thick	Shallow	late blight
Sequoia	Late	Vigorous, erect	Green	Medium	White	Smooth to slightly russeted	Roundish thick	Shallow	
Teton	Late	Large, spreading	Green	Long, broad	Light buff	Smooth	Round to oblong, slightly flattened	Few, shallow	ring rot
Triumph	Early	Large to medium, spreading	Green	Long, broad, medium type	Red	Smooth	Round	Medium deep	
White Rose	Medium early	Large, spreading	Green, occasionally slightly pigmented	Medium in length and breadth	White	Smooth	Long, elliptical, irregular	Medium deep	

Resistance to disease. Resistance to scab may in time become a critical consideration in the selection of a variety for Kern County. Most of the potato land is infested with the scab organism and some of it so heavily that it has been abandoned for potato production. The scab picture is further complicated by the fact that several varieties and seedlings resistant to scab in other parts of the United States have not maintained their resistance when grown under California conditions.

Two varieties among those tested, Menominee and Ontario, have shown a very high degree of resistance when grown on some of the most severely infested soil in the county. Both varieties produce white tubers that must be classed as round in shape rather than as the presently preferred long type. Among the varieties studied, only Calrose produces the same type of tuber as White Rose.

Table 3 shows the different varieties resistant to various diseases as follows:

Fusarium wilt: Kasota (tolerant to)

Late blight: Essex, Kennebec, Sebago, Potomac, Calrose

Leaf roll: Houma, Katahdin

Mild mosaic: Chippewa, De Soto, Earlaine, Houma, Katahdin, Kennebec, Mohawk, Red Warba

Net necrosis: Chippewa, Katahdin, Kennebec

Ring rot: Saranac, Teton

Scab: Menominee, Ontario, Cayuga

Verticillium wilt: Menominee

And here is a report of the experiments by years, from 1940 to 1950

Studies were conducted at the U. S. Cotton Field Station, Shafter, California. All the potato seed planted, with the exception of White Rose, was seed grown by the U. S. Department of Agriculture in Maine. Certified White Rose seed was obtained each year from a local grower. In all cases the seed was relatively free from virus and other diseases.

Each variety in test was replicated 5 times in a randomized plot. Each replication consisted of 25 uniform-sized seed pieces planted in 25 feet of row. Planting was by hand except in 1949 and 1950, when an assisted feed planter was used. The plots were fertilized at the time of planting with ammonium sulphate applied at the rate of 600 pounds per acre. They were dug with a single-row digger, and each replication was picked up and weighed separately. Insofar as possible, all cultural operations were the same as those employed in the commercial fields of the area.

The variety White Rose was considered the check in all years except 1949, when it was not included in the planting. A number of the varieties studied normally require a longer growing season to reach maturity than does the variety White Rose. However, all varieties were dug at the same time as the check, so that the period elapsing from the date of planting until harvest was the same for each variety. A longer growing season would undoubtedly have resulted in increased yields for those varieties classified as late-maturing. The potatoes were not separated into market grades, but total yield was taken in every case. You are referred to the table on pages 6, 7, and 8 for brief characterizations of the varieties used in the study.

1940. In 1940 six varieties of potatoes were tested in a rondomized block. The yield data (table 4) show that only one variety, Chippewa, gave a significantly higher yield than White Rose. That of one variety, Earlaine, was significantly lower, and the remaining three varieties yielded approximately the same as White Rose.

1941. In 1941 (table 5) the same six varieties as tested in 1940 were used. However, two different seed lots of each variety were planted. Lot 1 was seed grown by the U.S.D.A. in Maine, and

TABLE 4—Potato Variety Yield Data, Kern County, 1940

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	48	40	41	47	43	219	43.8	280
Chippewa	51	51	53	53	49	257	51.4	329
Earlaine	33	35	38	19	31	156	31.2	200
Houma	47	52	47	50	52	248	49.6	317
Katahdin	36	40	49	41	42	208	41.6	266
Sebago	24	43	54	50	43	214	42.8	274
Total	239	261	282	260	260	1,302		

Least significant difference between means = 7.5 lbs.
Least highly significant difference between means = 10.3 lbs.

Lot 2 was seed saved from the 1941 Shafter plot—or seed one year removed from Maine-grown seed. The twelve seed lots were handled as twelve distinct units and planted in a rondomized block. In Lot 1, Chippewa, Katahdin, and Sebago yielded significantly higher than White Rose, while Katahdin and Sebago yielded significantly higher in Lot 2. Considering the total mean yield of the two lots of seed, the mean of Lot 1 was 42.9 lbs. and that of Lot 2 was 32.3 lbs. This represents a difference of 10.6 lbs. in favor of the Maine-grown seed, whereas only 4.49 lbs. difference is required for significance. Such results serve to emphasize the importance of high-quality seed.

1942. In 1942 seven varieties (table 6) were placed in test. No variety produced a significantly higher yield than White Rose, and the yields of four varieties—Chippewa, Russet Burbank, Sebago, and Triumph—were significantly lower. Two varieties, Houma and Sequoia, equaled White Rose in production.

1943. No yield data are presented for 1943 since the entire plot was devoted to the study of a large number of unnamed seedlings. Each seedling lot consisted of two to five hills, and yield data on such small lots were not considered reliable.

1944. In 1944, as in 1943, the major portion of the study was devoted to seedling or unnamed varieties. The plot did, however, include two named varieties. Calrose and Sebago, besides the White Rose check. Reference to table 7 shows that Sebago gave a significantly higher yield than the check but that the yield of Calrose was about the same.

1945. The 1945 test included twelve varieties. Of this number only one, Katahdin, gave a significantly higher yield than the check variety, White Rose; and only one variety, Pawnee, gave a significantly lower yield. Each of the remaining nine varieties gave a yield statistically equal to that of White Rose (table 8).

1946. The 1946 yield test (table 9) included thirteen varieties. In this year not a single variety gave a significantly higher yield than White Rose, and the yield of only one, Sequoia, equaled that of the check. All the rest produced yields significantly below that of White Rose.

1947. Data for the 1947 test are presented in table 10. Eight varieties were tested. The results were almost the reverse of those obtained in 1946. All but two varieties gave yields significantly higher than did White Rose—Chippewa, Houma, Pontiac, Red Warba, and Sebago. The yield of Sequoia equaled that of the check, and that of Russet Burbank was significantly lower than that of White Rose.

TABLE 5—Potato Variety Yield Data, Kern County, 1941

	Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
		Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
1	White Rose	28	29	29	32	51	169	33.8	216
1	Chippewa	44	46	43	49	53	235	47.0	301
1	Earlaine	55	26	29	29	25	164	32.8	210
1	Houma	30	47	38	44	50	209	41.8	257
1	Katahdin	46	48	59	58	45	256	51.2	326
1	Sebago	59	47	42	59	46	253	50.6	324
							1,286	42.9	272
2*	White Rose	30	25	26	29	30	140	28.0	179
2*	Chippewa	20	36	36	24	25	141	28.2	180
2*	Earlaine	8	20	25	22	16	91	18.2	116
2*	Houma	20	25	34	32	37	148	29.6	189
2*	Katahdin	53	49	46	17	53	218	43.6	279
2*	Sebago	48	45	51	37	50	231	46.2	296
							969	32.3	206
	Total	441	443	458	432	481	2,255		

Least significant difference between means = 11.0 lbs.
Least highly significant difference between means = 14.5 lbs.
Least significant difference between means of combined seed lots 1 and 2 = 4.49 lbs.
* Not included in summary table 2.

TABLE 6—Potato Variety Yield Data, Kern County, 1942

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	63	63	60	52	43	281	56.2	360
Chippewa	49	47	36	45	38	215	43.0	275
Houma	26	62	61	54	50	253	50.6	324
Russet Burbank	26	27	26	26	26	131	26.2	168
Sebago	48	49	49	46	43	235	47.0	301
Sequoia	61	74	47	50	49	281	56.2	360
Triumph	20	23	20	15	30	108	21.6	138
Total	293	345	299	288	279	1,504		

Least significant difference between means = 6.26 lbs.
Least highly significant difference between means = 8.32 lbs.

Text and tables continued

1948. Ten varieties were tested in 1948 (table 11). Of the ten, four—Menominee, Pontiac, Sebago, and Sequoia—yielded significantly higher than White Rose. One, Cayuga, yielded significantly lower than the check variety. The yields of four—Chippewa, Houma, Katahdin, and Teton—equaled the yield of the White Rose check.

1949. In 1949 (table 12) nine varieties were included in the plot. White Rose, the variety generally used as the check, is not included in the table because of an unavoidable incident in the field. There are no significant differences among the varieties tested.

1950. Seventeen varieties were planted in 1950. The data are presented in table 13. None of the varieties tested produced a significantly higher yield than White Rose; and only one, Red Warba, yielded significantly lower than the check. The rest, or fifteen varieties, each produced a yield statistically equal to that of White Rose.

TABLE 7—Potato Variety Yield Data, Kern County, 1944

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	19	39	26	41	35	160	32.0	205
Calrose	50	58	31	24	27	190	38.0	243
Sebago	69	60	46	55	35	265	53.0	339
Total	138	157	103	120	97	615		

Least significant difference between means = 17.2 lbs.
Least highly significant difference between means = 24.9 lbs.

TABLE 8—Potato Variety Yield Data, Kern County, 1945

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	24	26	29	35	26	140	28.0	179
Chippewa	21	30	16	33	27	127	25.4	163
Earlaine—2	34	36	28	44	30	172	34.4	220
Houma	23	22	22	21	22	110	22.0	141
Katahdin	32	50	31	41	34	188	37.6	243
Menominee	26	24	27	18	33	128	25.6	164
Mohawk	19	25	16	37	21	118	23.6	152
Pawnee	14	26	16	12	14	82	16.4	105
Pontiac	29	32	23	33	29	146	29.2	187
Potomac	41	18	31	18	32	140	28.0	179
Sebago	32	41	24	34	30	161	32.2	208
Sequoia	31	39	24	59	29	182	36.4	233
Total	326	369	287	385	327	1,694		

Least significant difference between means = 8.6 lbs.
Least highly significant difference between means = 11.6 lbs.

TABLE 9—Potato Variety Yield Data, Kern County, 1946

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	72	78	97	87	93	427	85.4	547
Chippewa	55	53	66	66	60	300	60.0	384
Houma	79	81	73	68	76	377	75.4	483
Kasota	73	69	78	79	76	375	75.0	480
Katahdin	50	61	72	72	65	320	64.0	410
Mohawk	50	67	60	71	79	327	65.4	419
Pawnee	55	47	45	48	60	255	51.0	326
Pontiac	74	58	65	65	83	345	69.0	442
Red Warba	55	57	64	61	63	300	60.0	384
Sebago	77	74	79	73	75	378	75.6	484
Sequoia	83	73	84	81	75	396	79.2	507
Teton	69	63	59	86	68	345	69.0	442
Triumph	56	61	54	60	58	289	57.8	370
Total	848	842	896	917	931	4,434		

Least significant difference between means = 8.75 lbs.
Least highly significant difference between means = 11.67 lbs.

TABLE 10—Potato Variety Yield Data, Kern County, 1947

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	59	47	43	47	49	245	49.0	314
Chippewa	64	66	67	64	68	329	65.8	421
Houma	61	63	65	53	64	306	61.2	392
Pontiac	62	66	82	64	68	342	68.4	438
Red Warba	63	70	63	61	71	328	65.6	420
Russet Burbank	26	20	24	29	26	125	25.0	160
Sebago	62	67	53	62	50	294	58.8	383
Sequoia	55	50	47	62	59	273	54.6	349
Total	452	449	444	442	455	2,242		

Least significant difference between means = 7.59 lbs.
Least highly significant difference between means = 10.25 lbs.

Tables concluded ➡

TABLE 11—Potato Variety Yield Data, Kern County, 1948

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	62	58	46	57	59	282	56.4	361
Cayuga	32	36	51	64	57	240	48.0	307
Chippewa	47	55	57	48	62	269	53.8	344
Houma	61	67	52	65	62	307	61.4	393
Katahdin	52	58	81	62	38	291	58.2	372
Menominee	74	70	62	57	68	331	66.2	424
Pontiac	68	71	52	56	87	334	66.8	428
Sebago	76	68	67	62	64	337	67.4	431
Sequoia	69	73	46	68	78	334	66.8	428
Teton	61	56	34	83	60	294	58.8	376
Total	602	612	548	622	635	3,019		

Least significant difference between means = 7.02 lbs.
Least highly significant difference between means = 9.41 lbs.

TABLE 12—Potato Variety Yield Data, Kern County, 1949

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
Cayuga	60	74	73	77	63	347	69.4	444
Houma	78	86	64	63	96	387	77.5	496
Katahdin	65	58	69	77	79	348	69.6	445
Kennebec	63	31	75	63	92	324	64.8	415
Menominee	51	77	75	92	66	361	72.2	462
Ontario	71	68	53	90	65	347	69.4	412
Pontiac	63	88	85	63	82	381	76.2	488
Sebago	70	99	64	58	77	368	73.6	471
Teton	74	53	81	86	83	377	75.4	487
Total	595	634	639	669	703	3,240		

No significant differences.

TABLE 13—Potato Variety Yield Data, Kern County, 1950

Variety	Yield in pounds					Total	Mean	Sacks per acre (100 lbs.)
	Rep. 1	Rep. 2	Rep. 3	Rep. 4	Rep. 5			
White Rose	44	48	43	36	39	210	42.0	269
Canus	34	20	56	47	52	209	41.8	257
De Soto	33	37	38	35	34	177	35.4	227
Essex	43	35	41	26	70	215	43.0	275
Huinkul	52	47	47	44	43	233	46.6	298
Katahdin	53	43	43	46	47	232	46.4	297
Kennebec	53	43	42	47	44	229	45.8	293
La Soda	30	33	36	34	62	195	39.0	250
Mohawk	49	36	37	81	42	245	49.0	314
Pontiac	42	41	47	36	41	207	41.4	266
Progress	39	28	30	38	39	174	34.8	223
Red Warba	32	35	27	32	33	159	31.8	204
Russet Sebago	44	53	36	35	35	203	40.6	260
Saranac	38	41	40	30	51	200	40.0	256
Satapa	43	47	75	34	42	241	48.2	308
Sebago	34	41	37	41	46	199	39.8	255
Teton	45	39	36	39	40	199	39.8	255
Total	708	667	711	681	760	3,527		

Least significant difference between means = 9.25 lbs.
Least highly significant difference between means = 12.2 lbs.

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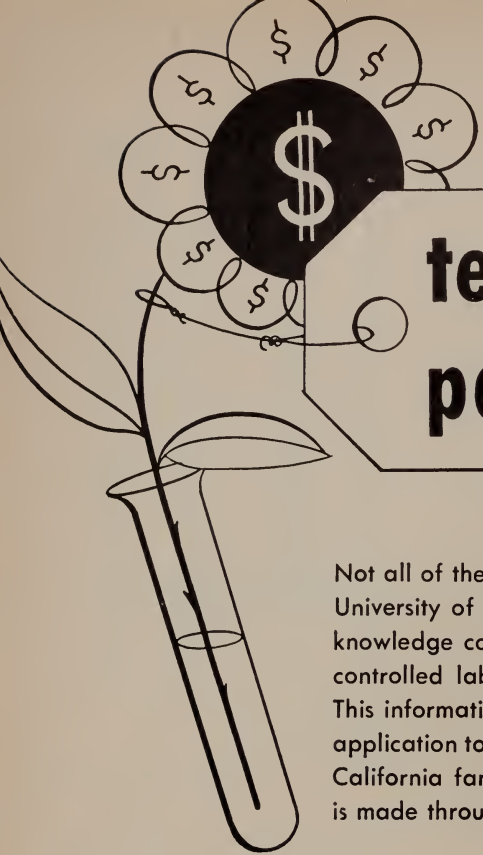

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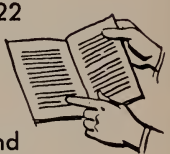

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